

REMARKS

The Final Office Action mailed on June 20, 2007 has been reviewed, along with the art cited. Claims 1-23 and 90 are pending in this application.

Rejections Under 35 U.S.C. § 102

Claims 1, 3, 9-13, 16, 18-21, and 23 were rejected under 35 USC § 102(a) as being anticipated by Larson et al, (U.S. Patent No. 4,697,808). Applicant respectfully traverses these rejections.

Claim 1 reads:

A method of improving a patient's gait, the method comprising:
producing a plurality of stimulation prompts at a plurality of stimulation points using multiple stimulation channels;
wherein the plurality of stimulation points are located symmetrically on each leg;
applying the plurality of stimulation prompts in a timed periodic fashion across the plurality of stimulation points;
wherein the plurality of stimulation prompts are not synchronized with the patient's gait and do not force muscle contraction;
wherein each of the multiple stimulation channels is associated with a stimulation electrode at one of the plurality of stimulation points; and
activating a return electrode whenever one of the multiple stimulation channels on an associated leg is active.

Applicant asserts that Larson does not teach or suggest all the claimed limitations of claim 1. In particular, Larson does not teach or suggest "wherein the plurality of stimulation prompts are not synchronized with the patient's gait and do not force muscle contraction." On the contrary, Larson discusses "The stimulation wave form utilized for walking . . . consists of a slow ramp up, a plateau and a slow ramp down . . . The amplitude of the wave *controls* the strength of the muscle contractions and *the speed of leg movement* while the period of the wave *controls the duration of the muscle*

contractions and the duration of the steps.” Col. 6, line 66 – col. 7, line 9. However, with regards to one embodiment of a method of improving gait, the present application states that “The cues are of insufficient amplitude to meet motor thresholds to induce contractions and are of inadequate duration to facilitate fused contractions. Unlike with functional electrical stimulation patients perform better *when they do not attempt to synchronize with the cues.*” ¶ 71.

For the reasons stated above, Larson does not teach or suggest “wherein the plurality of stimulation prompts are not synchronized with the patient’s gait and do not force muscle contraction” as claimed in claim 1. Claim 1, therefore, is not anticipated by Larson and Applicant requests that the rejection be withdrawn.

Claims 3, 9-13, 16, 18-21, and 23 depend from claim 1 and, thus, are allowable for at least the reasons stated above with regards to claim 1. Applicant, therefore, requests that the rejections be withdrawn.

Rejections Under 35 U.S.C. § 103

Claims 2, 7, 8, 14, 15, 17, 22, and 90 were rejected under 35 USC § 103(a) as being unpatentable over Larson et al, (U.S. Patent No. 4,697,808). Applicant respectfully traverses these rejections.

Claim 90 reads:

A method of reducing habituation in improving a patient’s gait, the method comprising:

producing a plurality of stimulation prompts at a plurality of stimulation points using multiple stimulation channels;

wherein the plurality of stimulation points are located symmetrically on each leg;

applying the plurality of stimulation prompts in a timed periodic fashion across the plurality of stimulation points;

wherein the plurality of stimulation prompts are not synchronized with the patient’s gait and do not force muscle contraction;

wherein each of the multiple stimulation channels is associated with a stimulation electrode at one of the plurality of stimulation points; and

activating a return electrode whenever one of the multiple stimulation channels on an associated leg is active;

linearly changing a pulse period for the plurality of stimulation prompts.

Applicant asserts that Larson does not teach or suggest all the claimed limitations of claim 90. In particular, Larson does not teach or suggest “wherein the plurality of stimulation prompts are not synchronized with the patient’s gait and do not force muscle contraction.” On the contrary, Larson discusses “The stimulation wave form utilized for walking . . . consists of a slow ramp up, a plateau and a slow ramp down . . . The amplitude of the wave *controls* the strength of the muscle contractions and *the speed of leg movement* while the period of the wave *controls the duration of the muscle contractions and the duration of the steps*.” Col. 6, line 66 – col. 7, line 9. However, with regards to one embodiment of a method of improving gait, the present application states that “The cues are of insufficient amplitude to meet motor thresholds to induce contractions and are of inadequate duration to facilitate fused contractions. Unlike with functional electrical stimulation patients perform better *when they do not attempt to synchronize with the cues*.” ¶ 71.

For the reasons stated above, Larson does not teach or suggest “wherein the plurality of stimulation prompts are not synchronized with the patient’s gait” as claimed in claim 90. Claim 90, therefore, is not anticipated by Larson and Applicant requests that the rejection be withdrawn.

Claims 2, 7, 8, 14, 15, 17, and 22 depend from claim 1 and, thus, inherit the limitations of claim 1 discussed above. As stated above with respect to claim 1, nothing in Larson teaches or suggests “wherein the plurality of stimulation prompts are not synchronized with the patient’s gait and do not force muscle contraction.” Therefore, for at least the reasons stated above with respect to claim 1, claims 2, 7, 8, 14, 15, 17, and 22

are not obvious over Larson. Applicant, therefore, requests that the rejections be withdrawn.

Allowable Subject Matter

Claims 4-6 were objected to as being dependent upon a rejected base claim, but were indicated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. However, in light of the arguments made above, claims 4-6 have not been amended.

Serial No.: 10/693,792

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Attorney Docket No. 105.007US01

Title: SYSTEMS AND METHODS FOR TREATING MOVEMENT DISORDERS

CONCLUSION

Applicant respectfully submits that claims **1-23 and 90** are in condition for allowance and notification to that effect is earnestly requested. If necessary, please charge any additional fees or credit overpayments to Deposit Account No. 502432.

If the Examiner has any questions or concerns regarding this application, please contact the undersigned at the telephone number listed below.

Respectfully submitted,

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